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Industrial Technology
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Pella Corporation

Part I: Overview of Business

Family owned company have been designing and manufacturing windows, doors, and home automation systems since 1925. Pella has had a long history of always being on the cutting edge of window and door technology and strives to continue to be an industry leader.

Part II: Job Specifics

Design and Build machine to design following blueprints and specifications given by the customer. Many different skill sets including, machining, welding, 3d modeling, blueprint reading, accurate and precise measurement and the ability to work with other team members.

Part III: Introduce the Problem

A customer has come to you with the need to have a machine that can cut aluminum channel and stamp a quarter inch hole into the bottom of the profile. Customer also requested there be no saw used and all work be done using dies that are air operated. This machine will be operated manually and requires no automation due to the low parts production on this machine.

Part IV: Background

- Part profile tolerance
- Part length tolerance
- Hole diameter tolerance
- Hole location tolerance
- Die durability

Part V: Business Solution

Pella would build this machine by having a machine designer design it and then pass it off to a machine builder for the machine to be built. This machine would most likely have one or two dies and be operated from a central location. This machine may also have a built in stop for various length parts.

Part VI: Student Solutions

Students should develop a system of one or two dies with one portion of the die to be used for a cutting operation and another to be used for punching a hole in the correct location. Students also need to create some stop to allow parts to come out at the correct length with the hole in the correct location.